



SNOW, ICE, AND POLAR WINDS

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The Cryosphere and JPSS

X

Ice sheets,
ice caps,
ice shelves



River and lake ice



Sea ice



Snow



Permafrost and
seasonally-frozen
ground

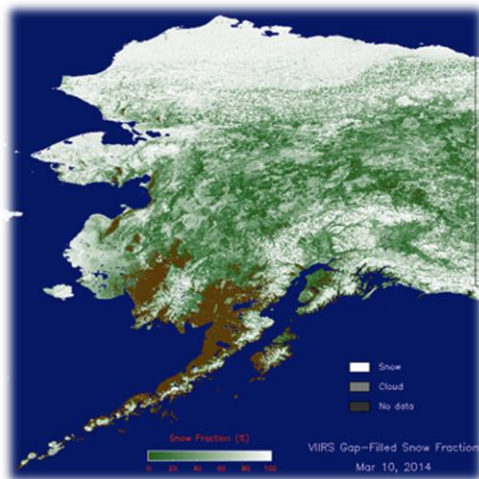
X

Glaciers

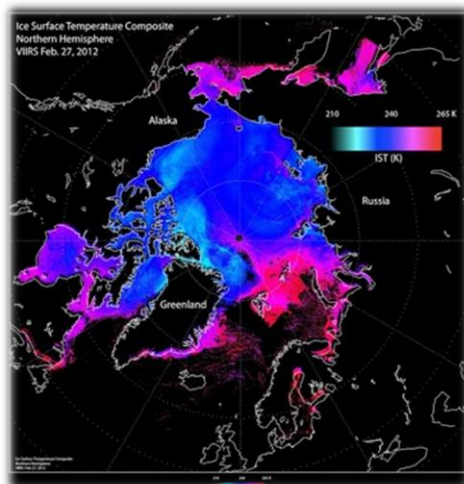


VIIRS Operational Products

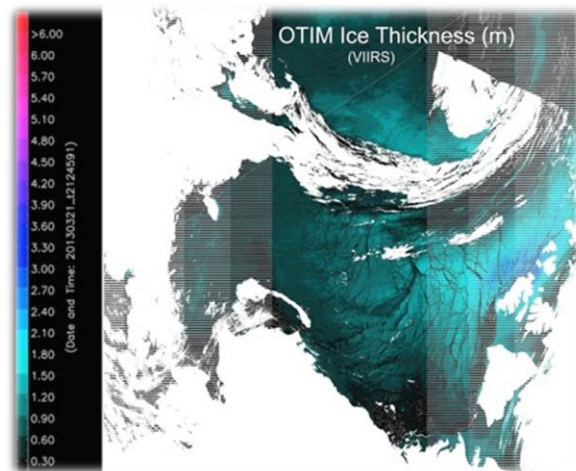
Snow Fraction



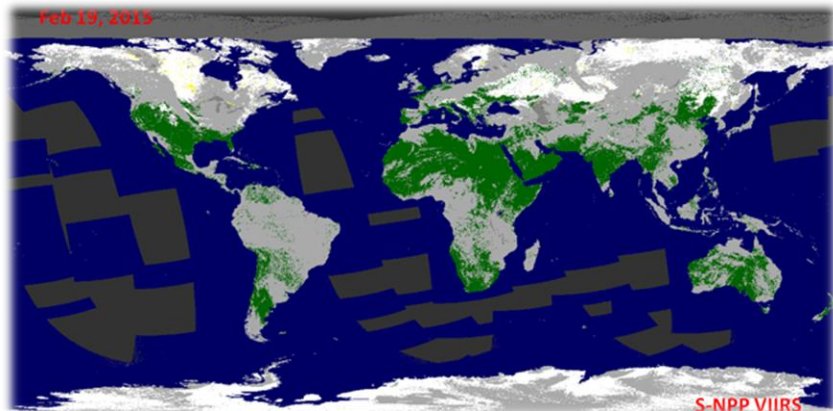
Ice Surface Temperature



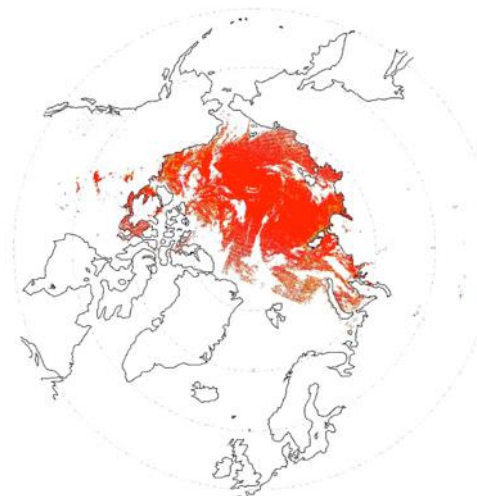
Ice Thickness/Age



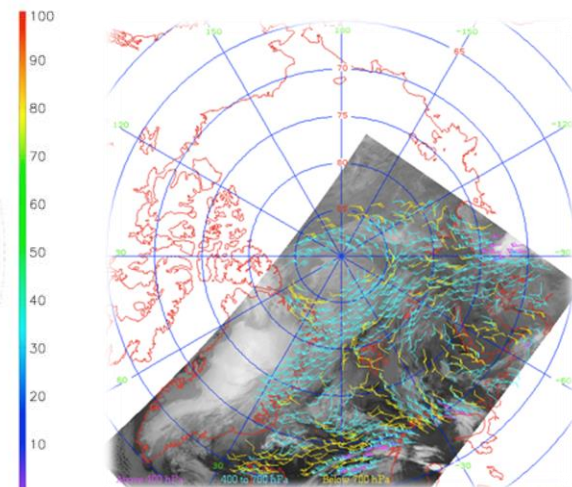
Snow Cover (binary)



Ice Concentration

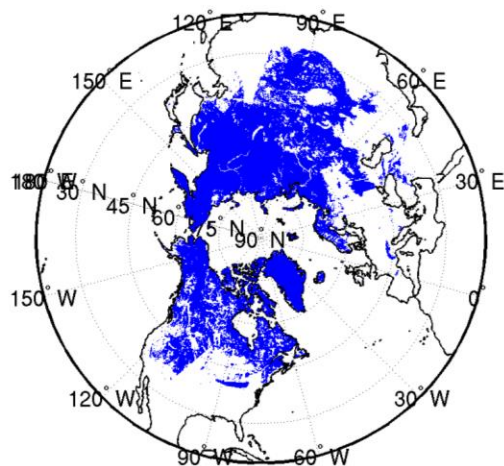


Polar Winds

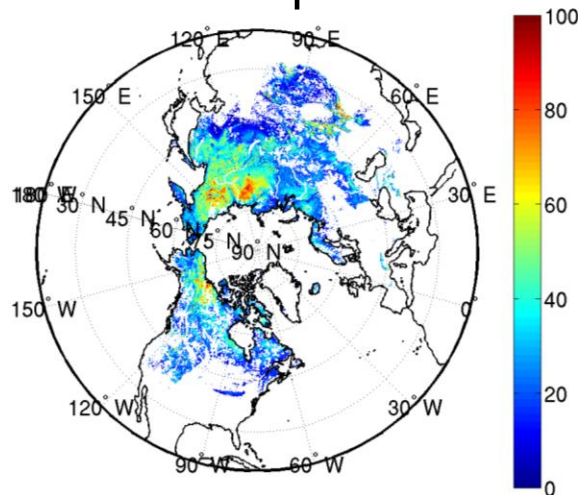


AMSR2 Operational Products

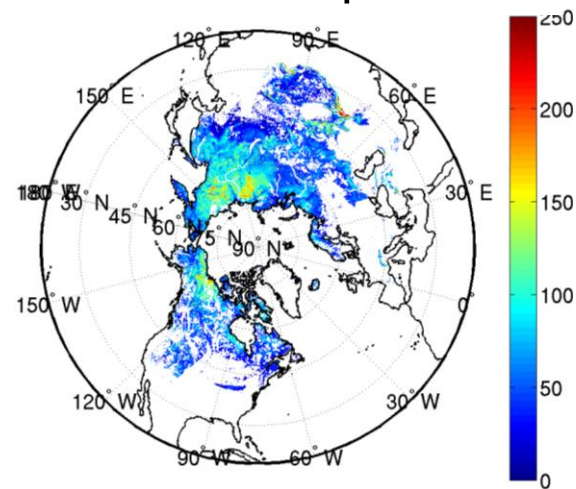
Snow Cover



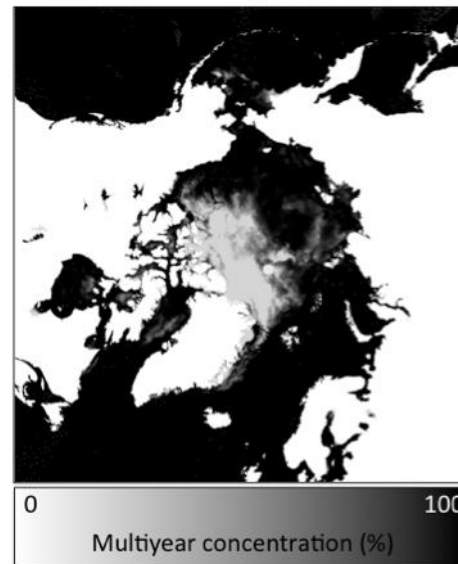
Snow Depth



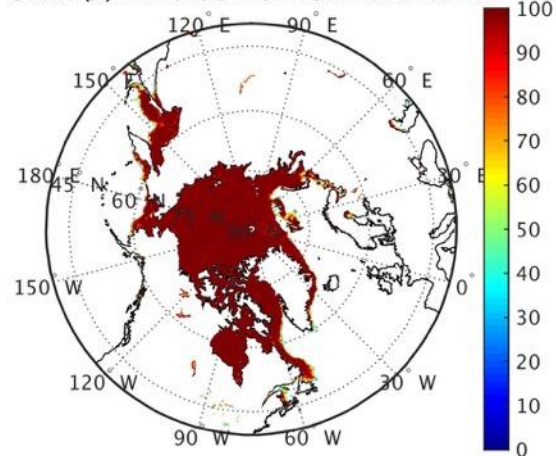
Snow Water Equivalent



AMSR2 MYIC, 3/15/2013



Seice (%) NH 2016.02.20 AMSR2 Nasa Team 2



Sea Ice Concentration

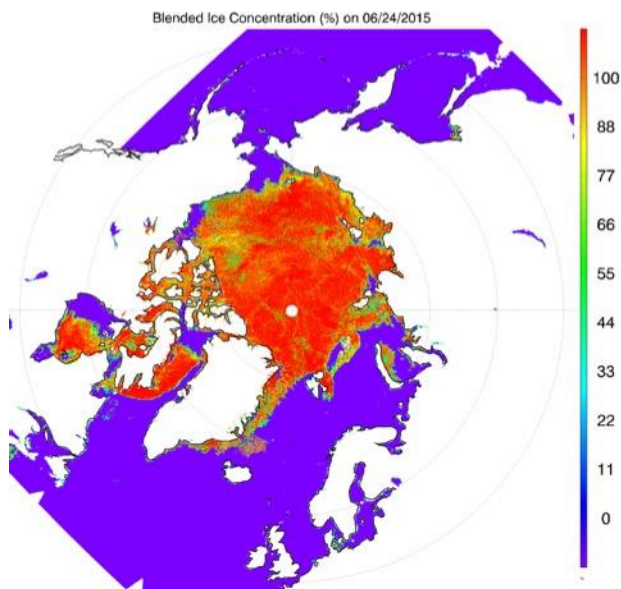
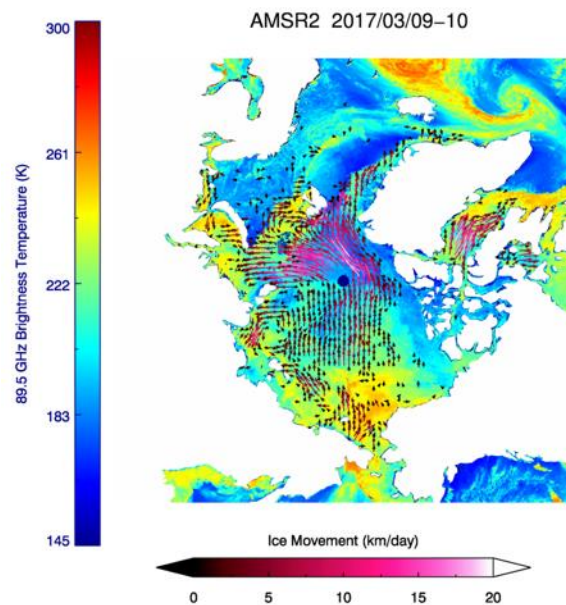
Sea Ice Type

Experimental Products



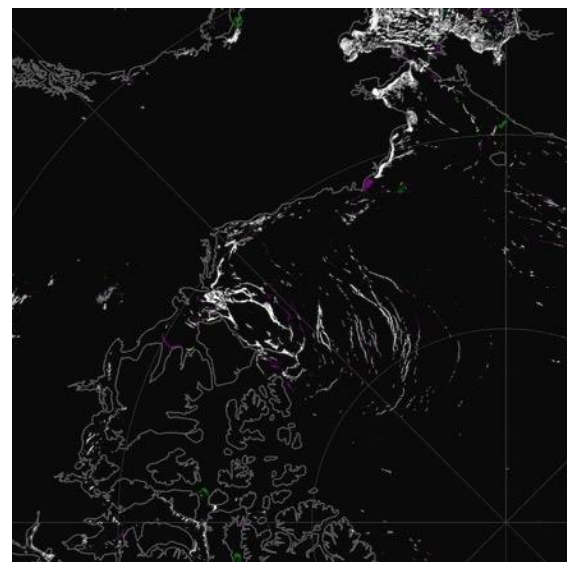
River Ice

Ice Motion



Blended Ice Concentration

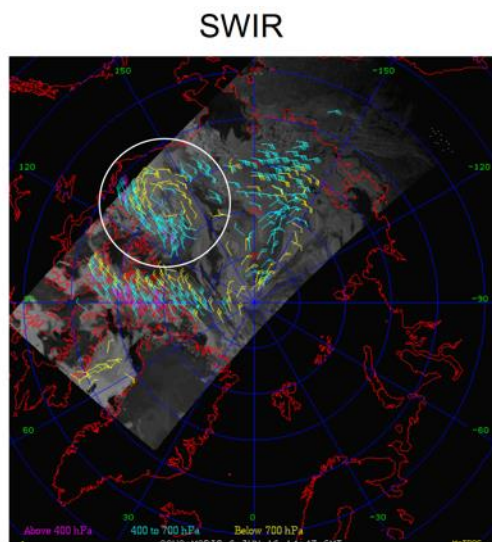
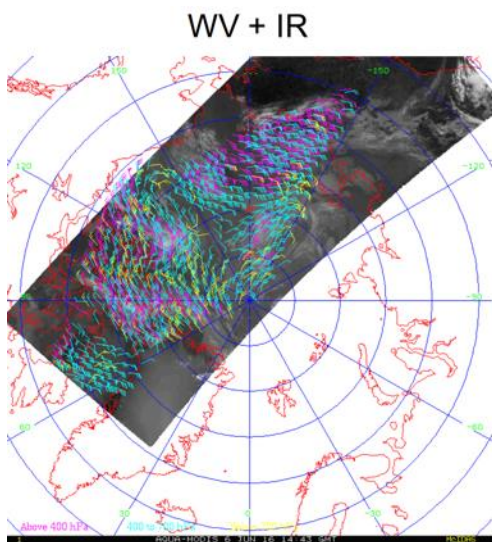
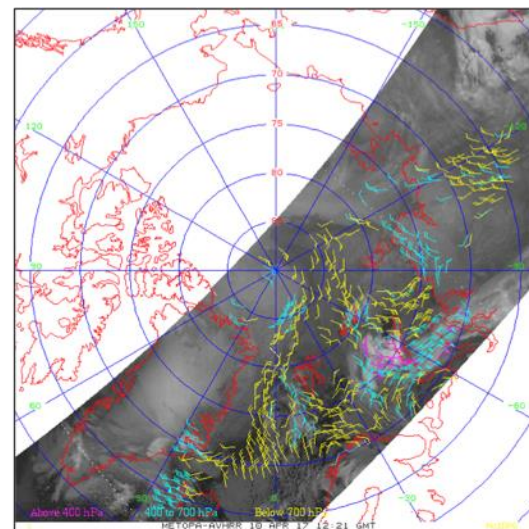
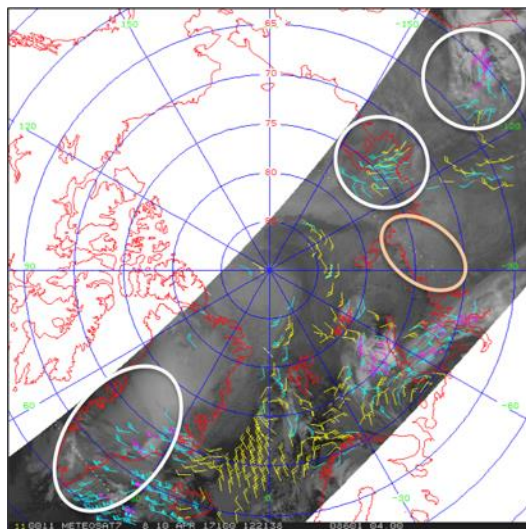
Sea Ice Leads



Experimental Products, cont.

Winds from combined
S-NPP and JPSS-1

*Far right: Single-satellite AVHRR
winds. Right: Winds from Metop-A
and -B.*



Polar winds with the
SWIR band

Summary

- VIIRS Products:
 - Snow: Binary snow cover, snow fraction
 - Ice: Ice surface temperature, ice concentration, ice thickness/age
 - Polar winds
- AMSR2 Products:
 - Snow: Snow cover, snow depth, snow water equivalent
 - Ice: Ice concentration, ice type
- VIIRS ice products are being added to PolarWatch.
- All products meet requirements.
- All products are operational.
- Planned improvements for J1 are minor and all are ready.
- Experimental products include river ice, ice motion, blended ice concentration, sea ice leads, polar winds with new bands, winds from tandem satellites.